This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (currently amended): An assay method comprising: providing a sample that is suspected of containing a target; providing a sensor that can bind to the target in an alcoholic preservative solution that does not contain formamide, said sensor conjugated to a chromophore; contacting the sample with the sensor in the alcoholic preservative solution that does not contain formamide under conditions in which the sensor can bind to the target, if present; applying a light source to the solution that can excite the chromophore; and detecting whether light is emitted from the target.

Claim 2 (original): The method of claim 1, wherein the sample is selected from the group consisting of blood; urine; semen; milk; sputum; mucus; plueral fluid; pelvic fluid; sinovial fluid; ascites fluid; a body cavity wash; eye brushing; skin scrapings; a buccal swab; a vaginal swab; a pap smear; a rectal swab; an aspirate; a needle biopsy; a section of tissue; plasma; serum; spinal fluid; lymph fluid; an external secretion of the skin, respiratory, intestinal, or genitourinary tract; tears; saliva; a tumor; an organ; a microbial culture; and an in vitro cell culture constituent.

Claim 3 (original): The method of claim 1, wherein the sensor comprises an aptamer.

Claim 4 (original): The method of claim 1, wherein the sensor comprises a polynucleotide.

Claim 5 (original): The method of claim 1, wherein the sensor comprises a peptide nucleic acid.

Claim 6 (original): The method of claim 1, wherein the sensor comprises a locked nucleic acid.

Claim 7 (original): The method of claim 1, wherein the sample is contacted with a plurality of different sensors, each of said plurality comprising a corresponding different detectable label, wherein each of said plurality can selectively bind to a corresponding different target.

Claim 8 (original): The method of claim 1, wherein the chromophore is a fluorophore.

Claim 9 (original): The method of claim 8, wherein the fluorophore is selected from a semiconductor nanocrystal, a fluorescent dye, and a lanthanide chelate.

Claim 10 (original): The method of claim 9, wherein the fluorophore is a semiconductor nanocrystal.

Claim 11 (original): The method of claim 9, wherein the fluorophore is a fluorescent dye.

Claim 12 (original): The method of claim 11, wherein the fluorescent dye is fluorescein.

Claim 13 (original): The method of claim 9, wherein the fluorophore is a lanthanide chelate.

Claim 14 (original): The method of claim 1, wherein the target is DNA.

Claim 15 (original): The method of claim 1, wherein the target is RNA.

Claim 16 (original): The method of claim 1, wherein said sample is a cellular fraction.

Claim 17 (original): The method of claim 1, wherein the target is centrosomal.

Claim 18 (original): The method of claim 1, wherein said target is a pathological organism.

Claim 19 (original): The method of claim 1, wherein said target is a virus.

Claim 20 (original): The method of claim 1, further comprising comparing a result from said detecting to a result obtained from a control sample.

Claim 21 (original): The method of claim 20, where the control sample is a positive control.

Claim 22 (original): The method of claim 20, where the control sample is a negative control.

Claim 23 (original): The method of claim 1, further comprising washing said sample prior to said detecting.

Claims 24-25 (canceled)

Claim 26 (original): The method of claim 1, wherein the method is automated.

Claim 27 (original): The method of claim 1, wherein the method is performed manually.

Claim 28 (currently amended): A method for identifying a sensor which specifically binds to a desired target, comprising: contacting a sample suspected of containing a target of interest with a detectable sensor, wherein said contacting takes place in a preservative solution comprising an amount of one or more water-soluble alcohols effective to preserve such solution against at least one contaminant and does not contain formamide; and detecting whether said sensor has bound to said target.

Claim 29 (original): The method of claim 28, wherein the method is performed on a plurality of candidate sensors.

Claims 30-35 (canceled)